

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently amended) Fluid bed granulation process of a predetermined substance comprising the steps of:

- forming, through a fluidification air flow of predetermined flow rate, a fluid bed of granules of said substance to be granulated, fed to it in form of seeds,
- feeding said fluid bed with a continuous flow of a growth substance,
- inducing the formation of a circulatory movement, substantially vortex-shaped, of the said granules of the substance to be granulated in said fluid bed and through at least part of said fluidification air flow,
- maintaining and regulating said circulatory movement through said part of the fluidification air flow,

~~characterized in that~~ wherein said substantially vortex-shaped circulatory movement has substantially horizontal axis and in that said fluidification air flow is divided into a plurality of fractions having respective flow rates comprised between a minimum value flow rate, sufficient to support the fluid bed, fed at a first zone thereof and a maximum value flow rate, fed in another zone of the same bed, so as to induce and to maintain said circulatory movement, substantially vortex-shaped, with substantially horizontal axis, of the granules of said substance.

2. (Currently amended) Granulation process according to claim 1, ~~characterized in that~~ wherein the variation in fluidification air flow rates between said first zone where the flow rate is minimum and the zone spaced out from it where the flow rate is maximum, is of the steps type.

3. (Currently amended) Granulation process according to claim 1, ~~characterized in that~~ wherein the variation in fluidification air flow rates between said first zone where the flow rate is minimum and the zone where the flow rate is maximum is substantially gradual and continuous.

4. (Currently amended) Granulation process according to claim 1, ~~characterized in that~~ wherein said granules of the substance to be granulated are made to flow from one end of the fluid bed

where a flow of seeds of said substance is continuously fed to an opposite end thereof where a flow of finished granulated product is continuously discharged with substantially helical movement.

5. (Currently amended) Granulation process according to claim 1, ~~characterized in that wherein~~ finished granulated product obtained in said fluid bed is continuously discharged from a bottom of said fluid bed by gravity.

6. (Currently amended) Fluid bed granulator comprising a substantially parallelepiped container (2), equipped with a perforated bottom (3) comprised between two opposite long side walls (4,5) and opposite short side walls (6,7), ~~characterized in that wherein~~ said bottom (3) is equipped with holes (11) distributed in said bottom (3) with increasing density or pitch starting from a long side wall (4) of the container (2) towards an opposite long side wall (5) of the container itself.

7. (Currently amended) Granulator according to claim 6, ~~characterized in that wherein~~ said holes (11) all have the same diameter or opening area.

8. (Currently amended) Granulator according to claim 7, ~~characterized in that wherein~~ in said bottom or grid (3) parallel bands (3a, 3b, 3c), of predetermined width, are provided, in each of which the respective holes (11) are regularly distributed according to a predetermined "pitch", different from band to band.

9. (Currently amended) Fluid bed granulator comprising a substantially parallelepiped container (2), equipped with a perforated bottom (3) comprised between two opposite long side walls (4,5) and opposite short side walls (6,7), ~~characterized in that wherein~~ said bottom (3) is equipped with holes (11) uniformly distributed in the bottom itself and having a different diameter or opening area, the diameter of each hole (11) gradually increasing as one approaches a long side wall (5) of said container (2), on which a distributor- supplier (10) of granule-growth substance is preferably supported.

10. (Currently amended) Fluid bed granulator comprising a perforated bottom (3) according to ~~any one of claim[[s]] 6 to 9, characterized in that wherein~~ it comprises a plurality of slits (14), of

predetermined width, for the release of finished granules from the container (2), and means for feeding a flow (A) of air or another suitable classification gas into said fluid bed through said slits (14).